

*Anti-*PipE* Antibodies*

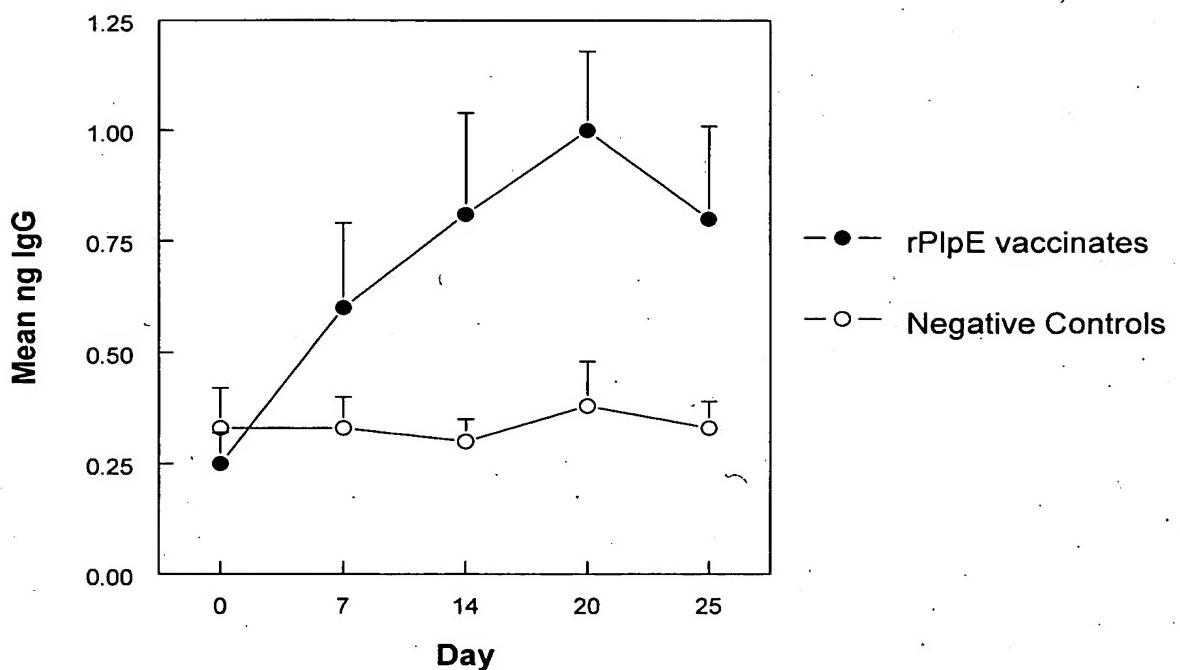
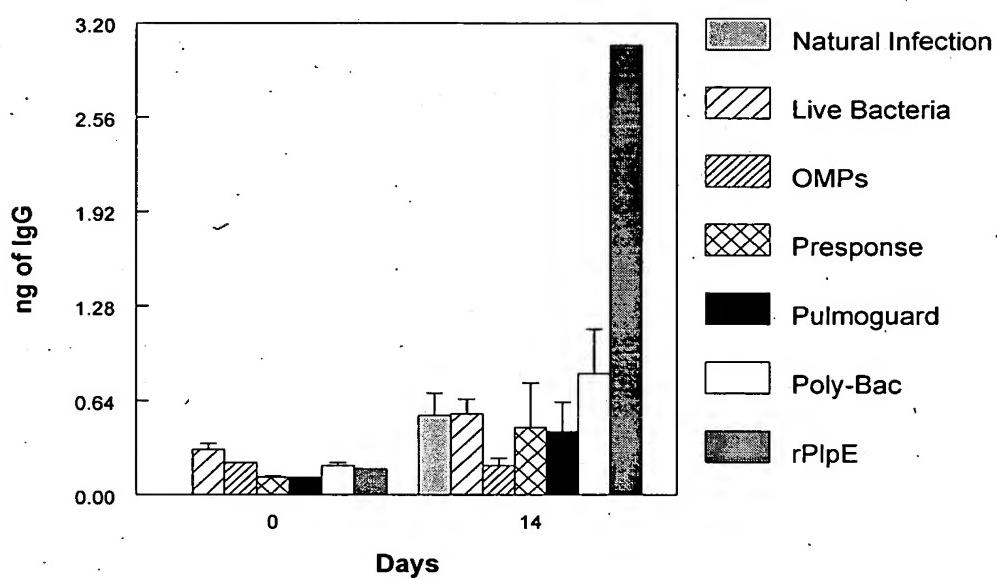


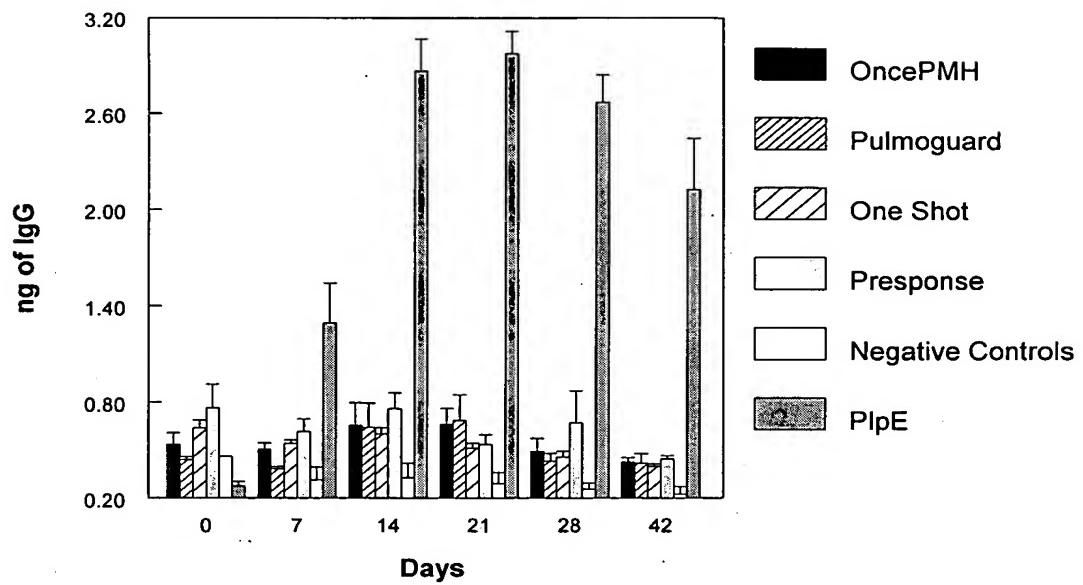
FIG. 1

### **Anti-rPlpE: Commercial *M. haemolytica* Vaccines - Exp. 1**



**FIG. 2**

**Anti-PIpE:Commercial *M. haemolytica* Vaccines - Exp. 2**



**FIG. 3**

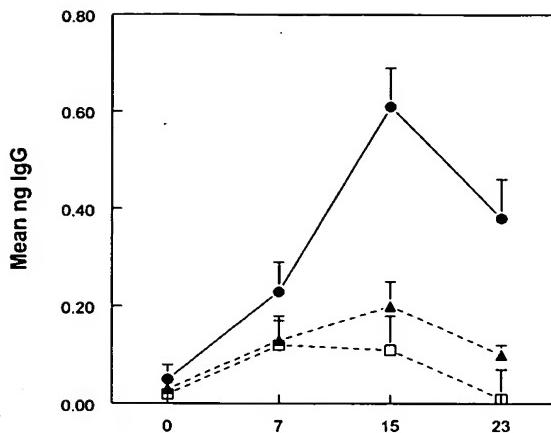


FIG. 4A

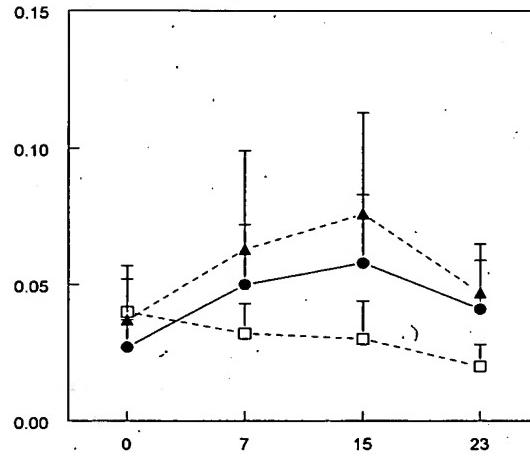


FIG. 4B

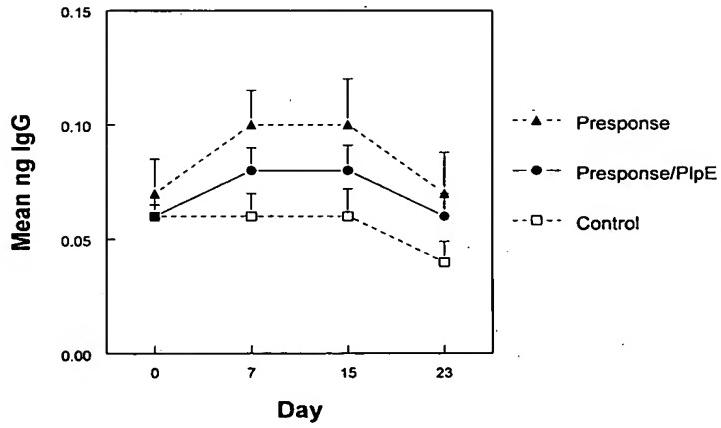
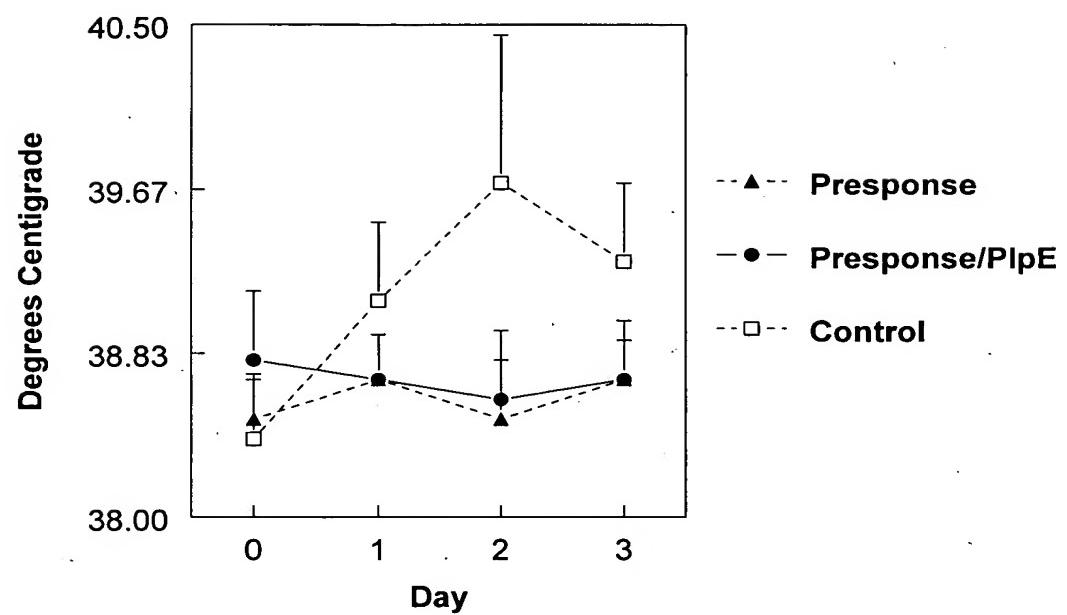


FIG. 4C

### **Rectal temperatures after challenge**



**FIG. 5**

FIG. 6

